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THE NATIONAL GEOGRAPHIC MAGAZINE

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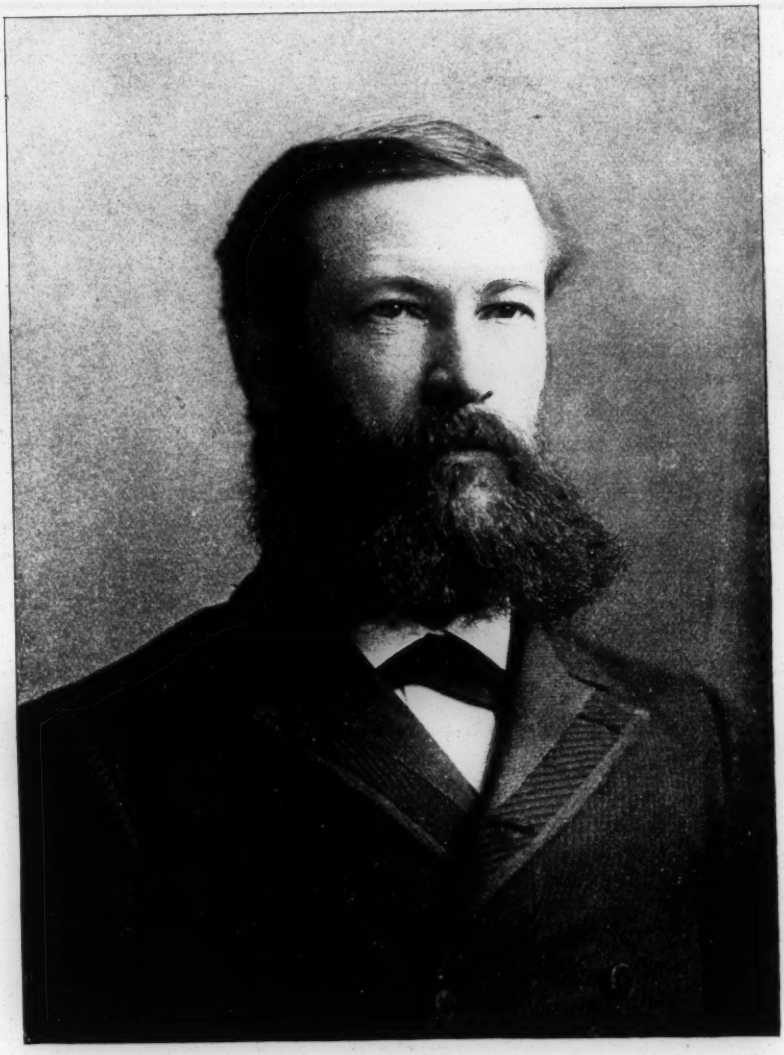


Henry Gannett.

THE
National Geographic Magazine

VOL. VII AUGUST, 1896 No. 8

THE WORK OF THE NATIONAL GEOGRAPHIC SOCIETY*

THE CHARACTER OF THE SOCIETY

The National Geographic Society is a scientific organization. In common with most other scientific bodies, it is occupied in both creating and diffusing knowledge. By reason of its activity in the diffusion of knowledge it has become a popular society, especially in the national capital, where most of the addresses and technical papers prepared under its auspices are delivered; but the essential fact remains that it is a scientific society and that it is its function to create as well as to diffuse geographic knowledge.

THE DEVELOPMENT OF GEOGRAPHY

Ancient geography was a description of continents and seas, nations and cities, races and tribes, and perhaps of animals and plants; in the beginning the descriptions were oral, but with the invention of sketching, writing, and mapping a permanent geographic art was developed. Thus ancient geography was chiefly the description of terrestrial things in words and pictures, and included the art of describing earth-features with pen and brush and graver. In this stage geographic features were assumed to be permanent and were described in terms of form and position.

As time passed men observed that tribes and peoples came and went, that cities were founded and sometimes abandoned, that nations arose and passed away; and thus history came to be and a time element was gradually introduced into geography.

* Substance of remarks by W J McGee at a meeting of the Board of Managers of the Society on June 5, 1896, printed at the instance of the Board

Still later it was observed that rivers are diverted, lakes filled up, and islands submerged through natural agencies; it was also found that many shore lines are shifting, that some lands are rising and others sinking, that all continents are wasting through the action of rain and rivers, and that the waste of the land is carried into the seas; thus geology grew up, and a time element was introduced even into that part of geography which deals with the more persistent earth-forms. In this stage geographic features were assumed to be changeable, and they were described not only in terms of form and position, but in terms of stage or sequence. This may be called transitional or medieval geography, though it comes down to the present in the books, and many geographers and some geographic societies have not yet risen above its plane.

Modern students of earth-forms have observed that rivers cut their own valleys in definite ways and at definite rates depending on known conditions, and that eventually the running waters carve the land into hill and dale, mountain and plain, in a definite way, albeit varying with altitude, structure, and other conditions. With recognition of the agencies and conditions of geographic change geographic history became definite, and it was found possible to interpret the record of ages of continent-growth from the geographic features, great and small, displayed by the continent. In this way a new science was developed; sometimes it is called the new geography, sometimes the new geology, sometimes geomorphology or geomorphy. It matters little what the science is called, but it is important to remember that through recognition of causes and conditions geography was raised to the plane of science. This is modern geography; and in this stage geographic features are regarded as definite products of known agency, and thus as definite records of determinate history, and description in terms of form and position is but a means to a nobler end, the reading of world-history from geographic features.

So three epochs in geographic development may be recognized, and their importance is none the less because some of their factors overlap—for the overlapping of factors is one of the characteristics of development. The first was the ancient or empiric epoch; the second was the transitional or scholastic epoch; the third is the modern or scientific epoch. In its first epoch geography was a meager body of description of features and a crude art of describing; in the second epoch it became a richer body of description of stages as well as features, and the art of describing was improved; and in so far as it has entered into the third

epoch it has become a science of the earth in which the chaos of geographic features and historical stages is reduced to order, while the body of description is enriched in quantity and even more in quality, and the art of describing is greatly improved. So in modern geography each district, the continent, even the entire world is considered not simply as an assemblage of features, but as an expression of tangible forces and conditions, a record of the past, and an index to the future, and thus the dead features are imbued with living interest. Briefly stated, the ancient geography was static, the modern geography is essentially dynamic.

With the transformation of geography from art to science its method changed. In the ancient and transitional epochs, when description was the end and aim of geographic work, men sought unknown lands and waters, and through their zeal and courage the earth was explored save for small areas in the Americas, Asia, Africa, and Australia, and for larger but more forbidding areas in the Arctic and especially in the Antarctic. Modern geographers in like manner seek the unknown, but their eyes are fixed on agencies and conditions, or on causes and effects, rather than on material features, and their aim is the complete reading of terrestrial history rather than the complete mapping of the terrestrial surface. So, while the methods blend much as the stages overlap, it is just to say that the early method of geographic work was exploration, and that the modern method is research.

THE FUTURE OF GEOGRAPHY

The transformation of geography began with the introduction of history and culminated with the incorporation of the principles of geology. Much was taken also from biology, chiefly through the doctrine of evolution, which afforded a rational view of successional relations; but less was obtained from anthropology, despite the fact that this branch of knowledge was the original contributor of history. The poverty of anthropology as a donor of geographic knowledge is due partly to the fact that history was fettered by scholasticism almost from the beginning, partly to the fact that students hesitated long before applying the principles of evolution to human beings and institutions. Accordingly human geography is still in the transitional stage, so far at least as most of the geographers and geographic institutions of the world are concerned. It is indeed recognized that tribes and

peoples come and go, that cities are founded and sometimes abandoned, that nations arise and pass away, and the statistician records the facts as the early geographer described forms and positions, while the historian records the successive stages as the medieval geographer noted stages in the wandering of an overloaded river; but the description, be it formal or historical, is description merely, and too rarely reaches the plane of science. The one thing needful in modern geography is suggested by the advance made through the new geology; it is *definite recognition of the causes and conditions by which human progress is shaped.* When this fundamental principle is grasped, dead statistics and musty history will be vivified, just as the dead earth-forms have been imbued with living interest, and human geography will rise to the plane of science. Now, the first requisite for improvement is recognition of need, and the common need of geography and anthropology is so keenly felt by a number of students as to suggest the future, and it may clearly be foreseen that future students will extend and apply our ever-increasing knowledge of cause and effect to human progress. Statistics and history recorded in monuments and letters, paintings and gravings furnish the requisite data of form and position and succession, and may be molded into attractive form, but nothing less than definite recognition of the forces by which the successive stages grew will infuse the breath of life into this body of knowledge.

So it may be predicted that the geography of the future will be devoted primarily to research concerning the forces of the earth, including those affecting peoples and institutions as well as those shaping land-forms and molding faunas and floras, and that industries, arts, commerce, laws, governments, religions, even civilization itself, will eventually fall within the domain of definitely organized science and become incorporated in geography. The prediction is easy and safe because the geography of the present is already on the higher plane with respect to the inorganic part of its object-matter, is well advanced toward this plane with respect to the evolution of organisms, and looks up to the same plane with respect to the courses and causes of human organization; the fulfillment of the prediction will be simply the consummation of present progress.

THE PURPOSES AND METHODS OF THE SOCIETY

It is the purpose of the National Geographic Society to increase and diffuse geographic knowledge growing out of research as well

as exploration. The more tangible instrumentalities employed are (1) technical meetings, (2) popular addresses, and (3) a monthly magazine.

The technical meetings are devoted to the presentation and discussion of the results of geographic research, the announcement of discoveries made through research or exploration, the discussion of methods for exploration, survey, research, record, etc. These meetings are somewhat informal gatherings of a body of working geographers, bound together by common interest in geographic progress. Each contributes, either under a set title or in extempore discussion, to the common stock of knowledge; each is fresh from field or laboratory, and his ideas are developed by personal contact with the phenomena and forces of the earth; collectively, these active geographers form a hive of busy workers, constantly engaged in extending and improving the science of the earth, and their researches are stimulated by the encouragement and association found in the Society. The communications are illustrated, as required, by maps, sketches, stereopticon views, objects, apparatus, etc. The meetings are open to members and guests of the Society, but the participants are chiefly geographic workers and teachers. The working geographers who maintain the technical meetings are for the most part officers of the scientific bureaus and of the army and navy of the federal government; and in no other center in the world are there so many working geographers occupied in so extensive a field. Other contributors come from the universities and colleges and the normal and high schools of the national capital and neighboring cities; and still others are distinguished teachers, explorers, or investigators in geography from other parts of the country and from foreign lands. So far as the official surveys and other geographic operations of the federal government are concerned, the National Geographic Society is a scientific clearing-house in which the coin of knowledge and the securities of science are exchanged and distributed to mutual benefit.

The popular meetings are devoted to (*a*) addresses by distinguished geographers on topics of current interest suggested either by research or exploration, and (*b*) series of lectures on important phases of geographic science by distinguished investigators or teachers. The popular lecturers are usually leading exponents of geographic thought in this and other countries. The addresses are illustrated usually by stereopticon views, sometimes by maps and sketches or objects in addition. The attend-

ance at the popular meetings commonly ranges from 500 to 1,500, and comprises working geographers and teachers, as well as intelligent laypeople, and includes a considerable sprinkling of youth, mainly students in universities and schools. In choosing popular speakers on current topics, preference is given either to actual explorers or original investigators who are known to treat geography as a branch of science, and such speakers arrange and present their matter freely, save that the excessive use of picture and anecdote is discouraged—the object is to instruct as well as entertain. Still greater care is given to the selection of lecturers for the organized courses. The first requisite is that each speaker shall be a recognized authority; the second is that the treatment shall be scientific—that superficial description and pictorial illustration shall be subordinate to the exposition of relations and principles. The lecture courses of the last two years exemplify the methods of the Society. Nominally, they were descriptions and illustrations of transcontinental tours; the descriptions were presented by careful students of the several areas described, and the illustrations were the finest lantern slides obtainable, showing noted scenic features; yet the essential characteristic of the lectures was the interpretation of the geographic features in terms of agency and history in such manner that each gave a picture of geographic development, while the course yielded a living panorama of world-making. When Niagara was depicted in sun and word picture it was not simply as one of the world's wonders, but as a potent geographic agency and eloquent record of continent growth. To this character the success of the lecture courses must be ascribed. Other lecturers describe mountains and canyons and picturesque coasts as scenic features with indifferent success as measured by the interest developed; the Society's lecturers described mountain, glacier, plain, river, coast, and city as marking stages in a grand procession of events, and opened vistas through the ages with gratifying success as measured by the display of interest. Thus the popular addresses are not designed primarily for entertainment, for the display of eloquence or the revelation of pictorial art, or for minute accounts of geographic features; they are designed for diffusing interest and definite knowledge concerning geographic science.

THE NATIONAL GEOGRAPHIC MAGAZINE is a medium of communication between geographers within and without the Society, and its aim is to convey new information and at the same time to reflect current opinion on geographic matters. In the selec-

MONTICELLO

MEETING OF THE NATIONAL GEOGRAPHIC SOCIETY, MAY 16, 1896

tion of articles, books for review, subjects of notes, etc, preference is given first to original records of personal work in exploration and research, and next to systematic writings tending to organize, and thereby to advance and improve, geographic knowledge.

Some of the most efficient instrumentalities employed by the Society in promoting geographic knowledge are more or less intangible. Through a large and widely scattered corresponding membership, interest in modern geography is diffused throughout the country; through the public, high, and normal school teachers, especially in the District of Columbia and Maryland, who are affiliated with the Society, a steadily increasing influence is exerted on elementary geographic education. All the leading American universities are represented in the Society, and through them its influence on more advanced education is large and constantly increasing; all the leading state and federal surveys, geographic and geologic, are also represented, and in this way the surveys are brought into closer harmony, their interests are promoted, their efficiency is increased, and the people are benefited. In this and other ways the National Geographic Society strives to contribute to the scientific progress and thus to the material welfare of all parts of the country; and there is evidence that its efforts are far from unsuccessful.

EIGHTH ANNUAL FIELD MEETING OF THE NATIONAL GEOGRAPHIC SOCIETY

The annual field meeting, held at Monticello, near Charlottesville, Virginia, on Saturday, May 16, was noteworthy as the first meeting of the National Geographic Society in the well-defined geographic province known as the Piedmont plateau.

A special train left Washington at 9.00 a. m., carrying about 300 members and guests of the Society. Reaching Charlottesville at noon, the visitors were conveyed in carriages to Monticello, the homestead of Thomas Jefferson. Here they were welcomed by Mayor John S. Patton, of Charlottesville, in a felicitous address. Responding, President Hubbard happily characterized Charlottesville as an intellectual center of the south, and, referring particularly to Monticello, eulogized Jefferson as statesman, citizen, geographer, educator, and man. "Jefferson," he said, "was a man of acts, not words. His name is better known and more

revered today than when he died. No nobler epitaph was ever written on the tomb of any man than on that of Jefferson: 'The author of the Declaration of Independence and the founder of the University of Virginia.'" An address of welcome on the part of the University of Virginia by the Rector, Dr W. C. N. Randolph, was then presented, to which General Greely responded. Mr Rosewell Page, of Richmond, spoke gracefully on behalf of the Association for the Preservation of Virginia Antiquities, welcoming the National Geographic Society to Virginia, and describing the work of the Association in preserving Jamestown and other historic sites of geographic interest; and Mr Jefferson M. Levy, owner of Monticello, in a few well-chosen words, extended the hospitality of the historic mansion to the Society. As an alumnus of the University of Virginia and a member of the National Geographic Society, the Rev. Dr Randolph H. McKim delivered an entertaining address on "Jefferson at Home." He described the founding of the university under Jefferson's plans and tireless supervision, and explained the admirable principles by which the university is controlled—the high scholarship, the elective system, the personal-honor system of discipline, the principle of religious freedom—and showed by illustration and example that the breadth and soundness of education in this institution prove Jefferson to have been far in advance of his times as an educator. Addresses followed on the "Physiography of the Piedmont Plateau," on "Albemarle in Revolutionary Days," and on "Spottswood's Expedition of 1716;" these are appended. After a collation the visitors attended a most agreeable reception at the university.

The details of the meeting were arranged by a committee under the chairmanship of Dr David T. Day, including representatives from the municipality of Charlottesville and the University of Virginia, the Sons of the American Revolution, the Daughters of the American Revolution, the Association for the Preservation of Virginia Antiquities, and the Columbia Historical Society.

The addresses of special geographic interest follow.

GEOGRAPHIC HISTORY OF THE PIEDMONT PLATEAU

By W J McGee

Monticello is the northernmost knob of a low mountain range; it overlooks a fair and fertile plain, glorious in vernal verdure and the promise of a rich harvest of golden grain and purple grapes in autumn. The plain is not monotonously smooth; here it undulates in graceful swells, there it dips into rocky river gorges winding across its width, and elsewhere it rises into rugged ranges running parallel with the neighboring Blue Ridge. Such is the Piedmont plain within view of Monticello, and such is the province throughout its extent from New York to Alabama; everywhere it is bounded on the southeast by the coastward lowland and on the northwest by the Appalachian mountains, and everywhere it rises so high above the coastal plain that it is fitly called a plateau. This undulant upland, with its transverse riverways, its parallel ranges, and its fertile soil, is a record of unwritten history stretching far into the wordless past.

Consider the rivers and the tributaries by which they are fed: Rivanna river runs yellow with mud; sometimes it is clearer, but after the great storm or the vernal freshet it is still more heavily laden with earth matter washed in from the hills; thus the Rivanna with its tributaries, and all the neighboring rivers of the province are incessantly carrying the debris of the land to the sea. How much the Rivanna carries has not been measured, but the burdens borne by the Mississippi and Potomac and many other rivers have been weighed and a rate for river work has been fixed, and thus it is known that the Rivanna, with its tributary mill-streams and brooks and storm rills, robs the land on which its waters gather of a layer of soil a third of an inch in average thickness during each century. This is an initial point in the reading of geographic history. He who desires to comprehend the record of the ages must realize that the land is not an indestructible thing, that the hills are not eternal, that the streams work ever and in time accomplish much; he must understand that since Jamestown was founded an inch of soil or rock has been removed from every average acre about Rivanna

river and elsewhere throughout the Piedmont province. So the brawling brooks and turbulent rivers declare that the Piedmont hills and valleys are slowly but incessantly wasting.

Consider the ways in which the waters run: Some rivers flow sluggishly in broad, flat-bottomed valleys flanked by gentle slopes, but the Rivanna and all its feeders and neighbors rush through narrow, rock-bound gorges, and on reaching the coastal plain cascade over huge bowlders and rugged ledges down nearly or quite to tide-level. Now, swift-flowing waters cut their channels quickly, and the fact that all the Piedmont rivers, large and small, are incessantly corrading their beds yet are unable to carve them down to tide-level, proves that the land is lifting. This is the second of the two starting points in the reading of geographic history; he who would learn how continents come to be must realize that the earth-crust is ever warping, that all lands are slowly rising or sinking in some of their parts, and that streams are living witnesses of the movement—for without this realization he must needs linger at the threshold of knowledge, where the forefathers unwittingly loitered before geography became science, and leave to others the joy of full understanding. The rate of land-lifting has not been measured, but since even the strongest streams are unable to cut their narrow channels down to tide-level, the rate must be many times the mean surface waste. Probably the Piedmont is rising about as rapidly as the adjacent lowland is sinking, and this has been reckoned at two feet per century in New Jersey, and may be one-third so much in Virginia. By reason of the land-lifting the modern Piedmont channels are carved sharply in the rock; these channels are but the bottoms of sharp-cut gorges 100 to 300 feet deep (the trenches of the recently defined Ozarkian epoch), and thus the gorges indicate that the lifting of the Piedmont is not the movement of a day or millenium merely, but has continued through ages. So the rushing rivers and rugged riverways of the Piedmont declare that the province is now, and long has been, rising more rapidly than the hills and valleys are wasting.

Consider next the parallel mountain ranges: Monticello and the rest of Carter mountain are but a ridge of hard rock scored by ravines and thinly mantled with soil, and Ragged mountain on the west, Southwest mountain on the north, and all the other ranges diversifying the plateau are its counterparts. The mountains are ribbed with silicious schists or quartzites or other rocks that resist well the work of the weather, the beating of storms,

and the cutting of streams, while the rocks underlying the fertile fields of the plain are softer schists easily weathered and worn away. Now, the development of topographic forms is an evolution whose key-note is "the survival of the hardest"; hence the Piedmont ranges may be (and indeed must be, since no other rational explanation has ever been framed) regarded as remnants of an ancient plateau whose softer portions have been swept away by the storms and streams of the ages. These ranges rise 500 to 2,000 feet above the undulant plain by which they are flanked; it follows that not only the vertical furlongs required to raise the present plateau to the higher crests has been borne seaward, but so much more as the crests themselves may have lost; it follows, too, that the time required for the waste of these thousands of vertical feet of rock matter at the known rate of a third of an inch in a century must have been vast, too vast for ready realization. So the Piedmont ranges declare the antiquity of the province, and testify that the modern plateau is but the foundation of a greater one in ages gone.

Turn now to the structure of the rocks exposed in gorge and mountain side: Collectively these are known as the Piedmont schists; they are harder or softer, traversed by dikes, or cut by quartz veins, but everywhere they are highly tilted in a trend conforming to the extension of the province; yet the composition of the schists indicates that they were originally marine sediments such as are accumulated in nearly horizontal sheets on the sea bottom. Now, sedimentary rocks are tilted and altered only by profound movements in the earth-crust which at the same time produce great mountain ranges, and the structure of the Piedmont rocks indicates that they are the roots of a broad mountain range; such is the conclusion of modern geology. Under this interpretation, the undulant and mountain-embossed plateau of the Piedmont must be regarded as the basal portion of a vast mass of inclined rocks of which an unmeasured upper portion has been planed away; no trace of the original surface appears; the softer strata end in the soil and the harder strata crop out in the ranges, and both point mutely to an ancient surface far above; there is nothing to indicate that originally the mass may not have extended ten miles upward, and the structure cannot be interpreted by geology save by assuming that its summit was at least half a mile or a mile above the highest crests of today. While the height of the ancient mountain of which the present Piedmont is the foundation may not be

measured in the province, it may be determined roughly from the neighboring Appalachian province, where the sedimentary strata are corrugated as by compression from southeast to northwest into long ranges trending parallel with the provinces, and where the rocks are so little altered that their thickness may be measured accurately. The two provinces are closely related, differing chiefly in the greater compression suffered by the Piedmont rocks; and frequently in the mountain province, as always in the Piedmont, the strata expose planed edges. Now the planed Appalachian strata are three miles or more in vertical thickness, demonstrating that so much of rock matter has been carried away; and while the Piedmont waste may have been somewhat greater or a trifle less, all authorities are agreed that at least one and probably three or more vertical miles of rock matter have gone into the sea. The evidence of the two provinces is corroborated by that of a third; for the coastal plain, to a width of some hundred miles and a depth of some thousand feet, is built of sediments demonstrably derived from the lost mountains. The time required for the paring down and bearing away of this immense mass of rock at the known rate of an inch in three centuries, or at any other conceivable rate, is vast, so vast as to tax the mind; yet he who falters at accepting the facts of mass or time only confesses failure to grasp this and other problems of modern geography. So the Piedmont rocks attest that the province is but the foundation of a range, say 75 miles wide and 3 miles high; and the rivers and the rocks declare with one voice that this vast volume has been swept into the sea to build another province. This story of the moving of mountains is striking: Colorado canyon is sometimes regarded as the world's most impressive example of the work of rain and river, yet the Piedmont is still more impressive; for the James and Potomac and Susquehanna must have traversed the ancient range in gorges no less profound than the Grand canyon, yet the storms and tributary streams stayed not when the canyons were cut, but continued consuming the canyon walls until they were gone, even until the mountains were not—the Colorado has cut a trench, the Piedmont rivers have carved a province.

Thus the fertile plain of the Piedmont, the transverse riverways, the parallel ranges, the subsoil rocks, teem with history which he who tarries a little may clearly read; they tell that the land is wasting into the sea at measured rate, yet that in the present epoch the land-mass is lifting still more rapidly; they

tell that these processes wrought in the past (the long past whose hours are as millions of years) so persistently that they moved a mountain range and lined an ocean-side. The soil, too, tells of conquest over savages and beasts, of the blossoming of the wilderness at human behest, of the flowering of culture and the ripening of intellect, over all the fair and fertile plain wrought during the ages; but this story of man's dominion is writ clearer in the leaves of books than in the furrows of the fields.

SPOTTSWOOD'S EXPEDITION OF 1716

By Dr William M. Thornton,

Chairman of the Faculty of the University of Virginia

Nearly 180 years ago there was formed in the Old Dominion a prototype of the National Geographic Society. The governor of the colony, Alexander Spottswood—trained in Marlborough's legions and bearing honorable scars from Blenheim—was its head. Robert Beverly, the historian of Virginia; John Fontaine, the chronicler of their exploration, with Todd and Robinson and Taylor and Brooke and Mason, and other names famous in Virginian annals, were on the roll. The fortunate preservation of Fontaine's Journal, and its publication* in the Rev. Philip Slaughter's "History of St. Mark's Parish," makes it easy to attempt a reproduction of the story of this historic ride.

Ten of these Virginian gentlemen, with four Indian guides and two small companies of rangers, assembled on August 26, 1716, at Germanna, on the banks of the Rappahannock, and set out thence to explore the passes of what they called the "highest ridge of mountains." "For this expedition," says the Rev. Hugh Jones, chaplain of the House of Burgesses, "they were obliged to provide a great quantity of horseshoes, things seldom used in the eastern part of Virginia, where there are no stones, upon which account the governor, upon his return, presented each of his companions with a golden horseshoe, with the inscription on one side—*Sic juvat transcendere montes.*" Such was the badge of this early society of explorers, now called in Virginian story the "Knights of the Golden Horseshoe."

One of these little golden memorials of that far-off time would

* Due acknowledgment is rendered to this valuable monograph.

be a highly prized treasure in our own day, when a lively interest in the history of our commonwealth renders precious every genuine relic of its heroic age; but all of them would seem to have perished. In that dismal effort to endow this charming story of Spottswood's ride with romantic and tragic interest, "The Knight of the Horse Shoe," by Dr Wm. A. Caruthers, is contained the following letter, which gives authentic evidence of the preservation of one of these ornaments to a late day. But even this Caruthers himself seemed unable to secure.

"ST. JULIEN (NEAR FREDERICKSBURG), VA., *February 25, 1841.*

"*To Dr Wm. A. Caruthers.*

"MY DEAR SIR: I have received your letter of the 5th inst., and in reply to it I can only say, what I said some years past to my friend, George Summers, on the subject of your letter. I said to him that I had seen, in the possession of the eldest branch of my family, a golden horseshoe set with garnets, and having inscribed on it the motto, '*Sic juvat transcendere montes*,' which from tradition I always understood was presented by Governor Spottswood to my grandfather as one of many gentlemen who accompanied him across the mountains.

"With great respect, yours,

"FRANCIS BROOKE."

Horseshoes alone did not make up their outfit. There were saddle and pack horses in abundance, great store of provisions, guns and pistols and ammunition, that they might replenish their commissariat with game, and with true Virginian hospitality an "extraordinary variety of liquors," used with generous and patriotic fervor. There were red wine and white, whisky and brandy, two sorts of rum, champagne, canary, cider, shrub, "and so forth," says the exhausted chronicler, and they were dealt out with a liberal hand. On September 6, they ascended a peak of the Massanutten—fancying themselves at the summit of the continental ridge—and standing on this terminus of their journey they dedicated their discoveries to His Majesty King George the First. After a good dinner they got the men together, fired a volley, and drank the king's health in champagne; then came another volley, with the princess's health in Burgundy; then another, with the health of the royal family in claret; then a fourth, with the health of the governor, and so perhaps continuing till even the youngest knight of their roystering Round Table had been honored by his volley and his toast. Through all their expedition good fellowship and cheerful converse brightened the way. "We arrived at a large spring," said

Fontaine, "where we dined and drank a bowl of punch." And again, "We made large fires, pitched our tents, and cut boughs to lie on, had good liquor, and at ten we went to sleep."

And yet our convivial geographers did not shrink from hard riding and hard work. Their journey followed the course of the Rappahannock to its fork, and thence pursued the Rapidan to its sources, whence, passing into the valley of the headwaters of the James, they crossed the Blue Ridge at Swift Run gap, descended the western flank, forded the Shenandoah, "drank some healths," as by invariable custom, on the other side, ascended the Massanutten, and there celebrated the completion of their journey with joyous salvos and flowing goblets. The route was no easy one, as it wound its way through those primeval forests, untrodden save by the wild beast and the wilder Indian. An average day's journey was less than ten miles. "We had a rugged way," writes Fontaine, on the 2d of September. "We passed over a great many small runs of water, some of which were very deep and others very miry. Several of our company were dismounted, some were down with their horses, and some thrown off." On September 3 they "came to a thicket so tightly laced together that we had a great deal of trouble to get through. Our baggage was injured, our clothes torn all to rags, and the saddles and holsters also torn." The axmen were constantly in request, clearing away the vines and briars to make a bridle-path. But cheerful spirits and brave hearts carried them through every danger. Each night they would make large fires, pitch their tents, and after hearty feasting and cheerful talk fall asleep on their rough couches of green boughs, keeping always a sentry at the governor's door. All their troubles were lightly taken. "This was some hindrance," says Fontaine of one of them, "and did a little damage, but afforded a great deal of diversion."

Game and fish were naturally plentiful, and sport was thus added to the pleasures of their journey. From the beginning they had venison in abundance, which they roasted before their camp fires on wooden forks and washed down with generous draughts of wine. Bears were killed almost daily—often three in one day. On the western slope of the Blue Ridge they saw "the footing of elk and buffaloes and their beds." Turkeys abounded all along their way. When they chanced upon neither deer nor turkeys they "ate part of one of the bears, which tasted very well and would be good and might pass for veal if one did not know what it was." While they camped on the banks of

the Shenandoah, writes Fontaine, "I got some grasshoppers and fished, another and I, and we catched a dish of fish, some perch and a kind of fish they called chub. The others went a-hunting and killed deer and turkeys." There were rattlesnakes, too, to be killed and hornets to be fought, and at least once the bear objected to the sacrificial rite, attacking the man who rode after him and narrowly missing him; "he tore the things that he had behind him from the horse and would have destroyed him had he not had immediate help from the other men and our dogs." So their expedition did not lack the spice of peril to season its hilarity. Two men fell sick with measles also and had to be left in camp with guards and taken up again on the homeward march, but all in the end went well, and after a ride of nine days out and four days back the gallant party reached Germanna once more.

The question has sometimes been raised whether Spottswood's was the first company to attempt the crossing of the Blue Ridge and the exploration of the regions beyond. John P. Hale, for example, in his "Transallegheny Pioneers," states that Colonel Abraham Wood, under a concession from the colonial governor (Richard Bennet) "to explore the country and open up trade with the Indians to the west," crossed the mountains in 1654, probably at Wood's gap—far to the south of Spottswood's line of march—and again that Governor Berkeley, in 1666, dispatched an exploring party under Captain Henry Batte, who followed the same route as Wood. Hale offers no documentary evidence to support these claims and the writer has been able to discover none. Until thus authenticated they must rest in the limbo of unverified traditions, and Spottswood must wear his rightful laurels as the first white man who with serious purpose led a company across this boundary of our colonial civilization, and set the example so promptly followed by the hardy pioneers, who faced the perils of the wilderness and built their homes in the fair valley of Virginia.

What, then, were the serious purposes of this earliest reconnaissance of the Blue Ridge? for, of course, the grave and sagacious Spottswood was not the man to prosecute such a journey merely that he might say at the end "we were very merry and diverted ourselves with our adventures." "The chief aim of my expedition," he writes in 1718 to the Board of Trade, "was to satisfy myself whether it was practicable to come at the lakes." What he did was to trace the Rappahannock to its source, to

identify the springs of the James, to "find an easy passage over that great ridge of mountains (the Blue Ridge) hitherto deemed impassable," and then he fancied the problem solved, and believed himself within easy reach of the streams which fed lake Erie and her vast sisters. We know now that he was misled by the Indians and deceived himself; that the great valley of Virginia stretched before him untraversed; that beyond lay the unscaled heights of the Alleghanies, and then the broad prairies of the Northwest. It was far from being such an easy matter, as Spottswood thought, thus to gain possession of these lakes. But the daring and martial spirit which such wild-wood adventures fostered in Virginian breasts was the spirit which sixty years later reared on American soil an everlasting altar to freedom; which thrilled Virginia's great orator when he cried, "I know not what other men may do; but as for me, give me liberty or give me death;" which inspired Massachusetts' noble statesman, when he swore to abide by the Declaration of Independence, "sink or swim, live or die, survive or perish." To recall this spirit and all that aided to nurture and strengthen it seems not inappropriate here beneath the roof of the author of that declaration, in sight of his cradle at Shadwell, and with the birthplace of George Rogers Clarke, the hero of Kaskaskia and Vincennes, at our feet; for it was left for this hardy warrior to perfect in battle and in march the work which Spottswood's genial and jovial company had purposed peacefully to begin.

JEFFERSON AS A GEOGRAPHER

By General A. W. Greely,

Chief Signal Officer, United States Army

It is a forlorn hope that I am undertaking, to answer an undelivered speech, to speak but three minutes, and to say something of interest. I will at least say that the reasons which make Monticello one of America's shrines are too well known to need extended comment from me. As long as a love of liberty abides in American hearts, as long as a desire for knowledge stirs youthful minds, so long will the name of Thomas Jefferson be here cherished. He was a man worthy of honor, whether considered as an individual founding the University of Virginia, as a Vir-

ginian shedding luster on his native state, or as a citizen doing in that broader national field things of greater import for his country and for oppressed humanity everywhere. Trite may have been the truths he uttered, but he voiced so aptly and clearly the aspirations of the people that his words yet thrill mankind and will in centuries to come.

The National Geographic Society erred not in making Monticello the scene of its annual field day. Bear in mind that of all our Presidents Jefferson is the only one of whom we can say, "He was a geographer." We do not know how far he aided his father in the surveys or draughting that resulted in the famed Jefferson and Fry map of Virginia, published in London in 1775, under Jefferys, the royal geographer, but we can well imagine young Jefferson eagerly studying its western and scarcely known limits, then given over to the Indian and the Spaniard. Doubtless from such studies his comprehending mind, in a manner common to all men of genius, stored geographic facts and ideas that better fitted him for his life duties. Men of genius make all knowledge tributary to their particular interests and ambitions.

In the days of travail for this nation, when to Europe America was a land of savages and forests, then it was that Jefferson did his first geographical work, writing "Notes on Virginia," to make known to the statesmen of France the resources and possibilities of a struggling colony. We know that the book was timely and effective, and we believe that it broadened the mind of Jefferson. His greatest geographic measure was his extra-constitutional act of annexation by purchase of the great territory of Louisiana. He realized that the only natural southern boundary of the United States of his day was the gulf of Mexico. To the south and southwest the presence of Latin races meant constant irritation and misunderstandings between them and the Anglo-Saxons.

Louisiana acquired, Jefferson, like a good geographer, initiated a survey of its immense and unknown areas, sending Lewis and Clarke to the west, and Pike first to the north and then to the southwest. With unwonted wisdom and courage, even before the territory was formally transferred, he sent Lewis and Clarke on their long and perilous journey, the first as well as the most important of all American explorations. Their three years' journey taught the way to the Pacific overland, and their discovery of the upper valley of the Columbia, conjoined with Gray's entrance at the mouth of that noble waterway in 1792, insured the title of the United States to Oregon territory in 1845.

Without Jefferson's original action we might well have been without a foothold on the Pacific today.

Remember that he was also foremost, if not first, in formulating plans and methods whereby the public lands should not lie wild and fallow, but serve their purpose of developing the nation's power by passing systematically and easily into the hands of the settler and farmer, which has proved the basis of our phenomenal growth and prosperity.

While we pay tribute to Jefferson as an individual, as a citizen, as a lover of liberty, and as a President, let us not forget his special claim to recognition as one of the greatest of American geographers.

ALBEMARLE IN REVOLUTIONARY DAYS

By Dr G. Brown Goode,

Assistant Secretary of the Smithsonian Institution, in Charge of the U. S. National Museum

The key to the history of Virginia in colonial and revolutionary days is to be found in the study of its rivers. So numerous are these and so wide that in their lower portions they can be crossed only in boats, and so far do they extend into the interior that in early days the lines of travel were almost entirely along their courses.

The region of the mountains was reached by roads which were parallel to the rivers, and the currents of western migration passed through "gaps" or passes in the Blue Ridge which were traversed by the streams which form the headwaters.

Between the principal rivers are peninsulas which stretch forth toward the sea like the fingers of a great hand: Accomac, or the "Eastern Shore," between the Delaware and the Susquehanna; the Maryland peninsula, between the Susquehanna and the Potomac; the Northern Neck, the domain of Lord Fairfax, between the Potomac and the Rappahannock; the Gloucester peninsula, between the Rappahannock and the York; the Yorktown peninsula, between the York and the Potomac, and Southside Virginia, between the James and the Dan-Roanoke. The Shenandoah valley, bounded by mountains rather than river courses, was similarly isolated, though by different means. Each of these had a history of its own, to a certain extent distinct and

peculiar. The people of these areas were isolated in early colonial days; intermarried chiefly with each other generation after generation, and formed permanent relationships which may be traced even now after the lapse of two centuries. At the time of the Revolution there were only two roads traversing Virginia from north to south. One passed from Philadelphia, by way of Newcastle, Del., Annapolis, Md., Alexandria, Fredericksburg, and Williamsburg, to the western settlements of North Carolina, crossing all rivers near the head of navigation except the James and the Roanoke. This road was serviceable only for passenger traffic, and for through travel was used almost exclusively by horsemen. The other was "The Great Waggon Road" from Philadelphia to the head of the Yadkin, in North Carolina. It followed the course of the ancient Indian road used for centuries before by the tribes of the east in their excursions from the Atlantic seaboard to the great hunting grounds in Kentucky and Tennessee, and as early as 1750 was the principal line of commerce between the Northern states and the Carolinas and Georgia. It traversed the entire length of the Shenandoah valley, crossing the Potomac some 20 miles above Harpers Ferry, near the mouth of the Conococheague creek. It was the position of the Conococheague upon this great highway which gave it such prominence in the days when the site of the national capital was being selected, and which almost led to the location of the capital here rather than where it now stands.

The main artery of Virginia was the James, and it was to the fact that the county of Albemarle was near its head and at that time almost upon the western frontier that its peculiar relation to the events of the Revolution was due.

Twenty-five miles east of Monticello is the great fork of the James river, which at that time was considered to be its head. Here two streams converge to form one greater one; the northernmost is the Rivanna, which rises on the eastern slopes of the Blue Ridge, then flows by Charlottesville and through the pass at Monticello; the southernmost the Fluvanna, rising far to the west in the midst of the Alleghanies, breaking through the Blue Ridge at Balcony falls (close to the Natural bridge), a hundred miles or more above its junction with the Rivanna. This, which is far the more important of the two, is now called the "Upper James."

The names of these streams are monuments to the loyalty of the early colonists. The James bears the name of the monarch

who ruled over England when Virginia was planted, and Rivanna and Fluvanna were named for his granddaughter, Queen Anne, for whom also were named the Rapid Anne, which we crossed on our way hither, as well as the South Anna and the North Anna, which drain the region just to the eastward. Rivanna was compounded by some enthusiast from the two words "river" and "Anna." Fluvanna is precisely the same, except that he used the Latin equivalent for the word river.

The old county of Albemarle, much larger at the beginning of the Revolution than now, occupied the triangle formed by the Blue Ridge on the west, the Fluvanna on the south, and the northern divide of the Rivanna basin on the north. In the southeastern angle of the county (which in 1777 was set aside in the county of Fluvanna), was the place called "Point of Fork," an important military station in the Revolution, while twenty miles above, on the Fluvanna or James, was old Albemarle court-house, also a supply station.

Charlottesville in 1776 had only recently become the county seat. A court-house and a tavern had been built, and in 1779 a group of a dozen houses had grown up about them. A considerable number of families lived in the vicinity, recent arrivals from tidewater Virginia. These people lived in comfort, though in great simplicity, upon the vast plantations which they owned, this region being upon the very frontier. Thomas Jefferson's father was one of the earliest settlers here, and he himself was perhaps the first white child born in this region. At the time of his birth, in 1743, buffalo still abounded in the neighborhood. Ten years before a buffalo calf had been captured just across the Blue Ridge and taken as a gift to the governor at Williamsburg. The Huguenot colonists at Manikintown, fifty miles down the James, kept buffalo in domestication for milk and beef. A trail frequented by the buffalo herds crossed the Blue Ridge at Rockfish gap, twenty-four miles west of Charlottesville, passed the Shenandoah at a ford near Staunton, and afterward over the next range by a passage still known as "Buffalo Gap," into the beautiful valleys, then, as at present, called the "Cow Pasture" and the "Calf Pasture," doubtless because of the presence there of buffalo herds in the days when they were named.

The inhabitants were still collecting bounties in tobacco for the wolves which they killed with their guns or enticed into pitfalls. The stream called "Wolftrap branch," near Charlottesville, preserves by its name the memory of those times. I have

myself seen in this locality pits partially filled up, which were used as wolf traps not half a century ago, and have talked with a man whose father had seen great herds of buffalo crossing the Roanoke river less than a hundred miles southeast of Charlottesville, at a point still called "Buffalo ford."

I mention these circumstances simply to give an idea of the solitude and seclusion of this region at the time of the Revolution. It was because of its very remoteness that Congress decided upon it, in 1779, as a place for the detention of the prisoners of war at that time quartered at Cambridge, in Massachusetts. These were the so-called "Convention troops," the captive army of Burgoyne, which had surrendered to Gates at Saratoga, October 12, 1777. This is not the place to discuss what seems to have been very bad faith upon the part of our government, which did not keep its pledges, but retained these captured troops for four years as prisoners of war, notwithstanding the agreement made by Gates and confirmed by Congress, that they should at once be sent to England on parole.

Two years after the Saratoga convention they were still confined in Massachusetts. They were marched in the dead of winter 700 miles, from Boston to Charlottesville. The number surrendered at Saratoga was 5,791, of whom 2,412 were Germans and Hessians. The number brought to Virginia was, of course, somewhat less, but how much there is no means of ascertaining. We know, however, that a year later their numbers had been reduced by death, desertion, and partial exchanges to about 2,100. They arrived in January at Charlottesville, where little preparation had been made to receive them.

One who was present at the time has left the following description:

> As to the men, the situation was truly horrible, after the hard shifts they had experienced in their march from the Potomack. They were, instead of comfortable barracks, conducted into a wood, where a few log huts were just begun to be built, the most part not covered over, and all of them full of snow; these the men were obliged to clear out and cover over, to secure themselves from the inclemency of the weather, as quick as they could, and in the course of two or three days rendered them a habitable, but by no means a comfortable retirement. What added greatly to the distresses of the men was the want of provisions, as none had as yet arrived for the troops, and for six days they subsisted on the meal of Indian corn made into cakes. The person who had the management of everything informed us that we were not expected till spring. Never was a country so destitute of every comfort; provisions were not to be purchased for ten days; the officers subsisted upon salt pork and Indian

corn made into cakes; not a drop of any kind of spirit; what little there had been was already consumed by the first and second brigades; many officers to comfort themselves put red pepper into water to drink by way of cordial.

On the arrival of the troops at Charlottesville the officers, what with vexation and to keep out the cold, drank rather freely of an abominable liquor called peach brandy, which, if drunk to excess, the fumes raise an absolute delirium, and in their cups several were guilty of deeds that would admit of no apology. The inhabitants must have actually thought us mad, for in the course of three or four days there were no less than six or seven duels fought.

The officers were allowed to go into the surrounding country in search of quarters; the Englishmen within a fixed circuit which extended beyond Richmond on the east; the Germans within a similar circuit, chiefly within the Shenandoah valley and including Staunton. Captain Auburey has left a most interesting account of his experiences in his book of travels published in London in 1789. In the Memoirs of the Baroness von Riedesel, who was with the German troops, may be found a narrative which is even more instructive. The barracks were about six miles north of Charlottesville, near Ivy creek, on a plantation now belonging to Mr Carr. Here the troops were detained until November, 1780, when the advance of the British through the Carolinas rendering their capture probable, they were marched northward. The British were moved to Maryland and thence to Connecticut; the Germans to Winchester, in the Shenandoah valley.

Some of the Germans, it is said, were quartered upon the estate of General Daniel Morgan, in what is now Clarke county, and were employed by him to build the great stone mansion, still standing, which he named "Saratoga" in memory of the place associated with his triumph and their defeat. In 1780 a considerable number of other prisoners captured at the Cowpens and in South Carolina were also brought to Albemarle. These men were liberated by the British at the time of Tarleton's raid. It is a curious fact that some who had married here while in captivity deserted from the British lines at Yorktown and returned here to live. It is said that some of their descendants still live in Albemarle. The position of Albemarle upon the frontier again gave it prominence in 1781, when the governor and legislature of Virginia having been driven from Richmond by the British invasion, Charlottesville became the temporary capital of the state.

It should be remembered that it was only the closing scenes of the war which took place upon the soil of Virginia. For the first five years all the battles were in the northern colonies. In 1780, however, Charleston, South Carolina, was captured, and the southern campaign began. The Virginia line was detached from the army of Washington, and with that of North Carolina went south to oppose the advance of Cornwallis. Other portions of the Continental Army followed. Notwithstanding the victories of the Americans at Eutaw Springs, Kings Mountain, and the Cowpens and the constant check to his progress which Greene and his militia auxiliaries interposed, Cornwallis (strongly reinforced by the tory partisans of Georgia and the Carolinas) slowly advanced toward Virginia. On May 20, 1781, he reached Petersburg by way of Wilmington. Another army, under Benedict Arnold, had five months before invaded the valley of the James, which they ascended to Petersburg and Richmond.

Virginia was at this time in a most helpless condition. All the able-bodied men were in the Continental Army. The militia were without arms, and Congress seemed unable to respond to their appeals for help. In those days putty had not been invented, and the glass in the windows of houses was held together by lead. So great was the need for bullets that the windows were destroyed to obtain them. Major John Pryor, commissary, stationed at Charlottesville, in June, 1778, wrote to Colonel Davies at Staunton that he had sent "by Expresses to every probable House within forty miles extent along the Southwest Mountains to collect what lead can be found in the windows and elsewhere."

All southern Virginia was ravaged by a motley horde armed with torch and sword, who traversed it under the leadership of Colonel Banastre Tarleton, a dashing officer of dragoons, who was followed by hundreds of tory partisans from the Carolinas. So shameless were their depredations that an officer in Cornwallis' army denounced them as a disgrace to civilization. Henry Clay, at that time a boy four years of age, living near Hanover court-house, remembered how the troopers desecrated the newly made grave of his father, who had died only a few days before, piercing it on every side with their sabers in search of hidden treasure.

The British having found little in the way of booty or resistance at Richmond slowly proceeded up the James. At the Point of Fork, already mentioned as being in old Albemarle and 25

miles to the east of Monticello, the Americans had an important military depot under the charge of Baron von Steuben, with a small body of troops. The British Colonel Simcoe, with his battalion of "Queen's Rangers," was sent to dislodge him, which he did in a manner at the time not considered creditable to the American commander.

Cornwallis also in June detached Tarleton with 180 troopers from his own legion, 70 mounted infantrymen, and a gang of Carolina tories to go to Charlottesville to capture Governor Jefferson and the legislature. Tarleton selected a secluded route up the valley of the South Anna by way of Louisa court-house, and on the morning of June 4, 1781, had approached to within ten miles of Charlottesville on the east. But for the courage of a man whose name is still remembered his plan would have been a perfect success. John Jouett, a scout and partisan, then 23 years of age, suspected the designs of the British, cut his way through the front of the column, and having a very fleet horse reached Charlottesville two hours in advance and gave warning to the legislature, and also got a messenger to Monticello to give warning to Mr Jefferson and to several members of the legislature who were residing at his house. This man was the grandfather of a citizen of Washington whom many of us personally know, Rear-Admiral James E. Jouett of the Navy.

The legislature adjourned with astonishing rapidity to Staunton, on the other side of the Blue Ridge, and only seven were captured. Shortly afterward they were again stampeded, and took to the mountains still farther west. The cause of their flight was somewhat curious. A company of Virginia troops marching northward approached Staunton, the colors flying and drums beating. The people of this region had never before seen soldiers in uniform and knew only the buckskin-clad rangers of their own region. The country people supposed the advancing column to be that of Cornwallis and gave a false alarm. When Tarleton's white-coated troopers reached the crest of Monticello, Governor Jefferson was not there; he was safe in the woods on Carter's mountain, the elevation next to Monticello on the south, and his family were at Enniscorthy, Colonel Carter's plantation, about six miles away.

Visitors to Monticello are often told that Mr Jefferson made his escape from the house by a sort of passage which connected it with outbuildings. In this story there is no truth. The circumstances of his flight are well remembered by his descendants,

and there is an interesting memorandum in Mr Jefferson's own handwriting in the possession of his grandson, Dr W. C. N. Randolph, of Charlottesville. Jouett's first messenger arrived at Monticello at sunrise. Governor Jefferson and the members of the legislature who were with him quietly took breakfast, after which his guests departed for Charlottesville, and he, after ordering some servants to hide the household silver under the floor of the front porch, occupied himself in packing up his papers. About two hours after another messenger, a Mr Hudson, rode up to tell him that the British were about to ascend the mountain. He at once sent his family to Enniscorthy and ordered his saddle-horse, which was being newly shod at the blacksmith's shop on the plantation. Carrying his papers, sword, and field-glass, he made his way to a place on Carter's mountain, whence he could see Charlottesville and the surrounding country. After awhile, not being able to see any troops, he started back home, but finding that he had left his sword returned to get it. Looking again, he saw a large detachment of dragoons in the streets of Charlottesville, and then mounted his horse and proceeded to Enniscorthy. In the meantime a detachment of troops under the command of Captain MacLeod had ascended the mountain from the opposite side and were searching for him at Monticello; but for the loss of his sword he would doubtless have returned home and been captured. When the troops reached the house, the two negroes, Martin and Cæsar, were still packing away the valuables under the porch through an opening made by lifting some of the planks in the floor. When the soldiers came up, the planks were replaced, and one of the negroes was imprisoned for eighteen hours. It was afterward ascertained that Colonel Tarleton had given positive orders to have the governor captured, if possible, but that none of his property should be destroyed, and this order was strictly carried out.

After laying waste the surrounding region, Tarleton rejoined Cornwallis, who had now encamped upon a plantation called "Elk Hill," just below the Point of Fork, which belonged to Mr Jefferson. General Lafayette was at this time assembling his forces in the vicinity of Culpeper court-house, about fifty miles to the northward. He was reinforced by Wayne's army at Raccoon ford, on the Rapid Anne, very near to Cedar mountain. He traversed Louisa, the next county to the northeast of us, crossed the North Anna at Brock's bridge, opened a road through the woods, still known as the Marquis road, and passed on in

rapid pursuit of Cornwallis, who had begun his retreat down the James. The boy-general soon drove his adversary to the end of the Yorktown peninsula, where Cornwallis hoped to get help from the British fleet. What happened there between the 30th of July and the 9th of October it is needless for me to relate.

Before closing, I must refer to some of the historic personages whose lives were passed in the region which surrounds us. It is to be regretted that Monticello is but a "little mountain" in fact as well as in name. If it were 1,500 feet higher and we were all provided with telescopes I could show you many things of interest.

Here and there along the banks of the James I might point out the homes of six of the seven Virginians who signed the Declaration of Independence. We might see the old courthouse in Hanover, twenty miles to the east, where Patrick Henry, pleading in the famous Parsons cause in 1763, declared that the burgesses in Virginia were the only authority who could give force to the laws for the government of the colony. I could show you still closer, in Louisa, the home of Dabney Carr, who proposed in the House of Burgesses, in 1773, the plan for committees of correspondence (to be organized for mutual protection in the several colonies), which were so useful in the earliest days of the Revolution. We could also see old St. John's church in Richmond, where, in 1775, at the meeting of the House of Burgesses, Henry defied the British crown, crying, "Give me liberty or give me death," and the spot where he died, at "Red Hill," just beyond Willis mountain, to the southeast. We could see what we have already seen once today fifty miles to the northward, the region of Culpeper, whence the Minutemen marched in 1775 with their rattlesnake flag and the motto "Liberty or Death" upon their hunting shirts, to the defeat of Lord Dunmore at Great bridge, with John Marshall, afterward Chief Justice of the United States, in their ranks. In this quarter we could also see the ancestral home of Madison, the champion of the Constitution. Looking to the northwest, beyond the Blue Ridge, we might see the region of the lower Shenandoah, whence marched two regiments of buckskin-clad riflemen to Boston at the alarm of Lexington, and the passes through which Washington journeyed in his early expedition to the westward. Over the Blue Ridge, not many miles away, we might seek out the birthplace of General Arthur Campbell, the hero of Kings Mountain, and that of John Sevier, the founder of the state of Frank-

lin, afterward Tennessee, the first commonwealth beyond the Alleghanies, and also the spot where Abram Linkhorn, grandfather of the President, married, lived, and was captain of a company of militia organized in 1776 for the defence of the western frontier. Still nearer, almost at the base of Monticello, the birthplace of General George Rogers Clarke, who by his victory over the British and Indians at Fort Vincennes in 1781 saved the northwest to the United States, a man the value of whose services to the nation at this time were second only to those of Washington, and away to the southward the spot where General Thomas Sumter was born. Our eyes, still turned to the west, would traverse the great frontier county of Augusta, whose western boundary extended, in accordance with the charter of 1609, to the Pacific, and whose actual limits, at that time undisputed, were upon the shores of the Mississippi.

After the surrender of Cornwallis, in this region were centered in large degree the future destinies of America. "The American states," writes Cooke, "were now either to set up as separate nations or to enter into a durable union; and the latter policy was strongly urged by Virginia. It is necessary to state this fact; the "states-right" record of the commonwealth has produced the impression that the sentiment of union was not strong in the people. The contrary is the fact. From the first the Virginians were the foremost advocates of union and made every sacrifice to effect it.

"To bring it about, Virginia began by surrendering a principality. The entire region beyond the Ohio, now the States of Ohio, Indiana, and Illinois, was a part of her domain under her charter. Her right to it rested upon as firm a basis as the right of any other commonwealth to her own domain, and if there was any question of the Virginia title by charter she could assert her right by conquest. The region had been wrested from the British by a Virginian commanding Virginian troops; the people had taken 'the oath of allegiance to the commonwealth of Virginia,' and her title to the entire territory was thus indisputable. The country north of the Ohio river was a part of Virginia under her original charter, remained a portion of her domain when in May, 1776, she declared herself an independent commonwealth before there was any union, and she herself succeeded to all the rights of the crown.

"These rights she now abandoned, and her action was the result of an enlarged patriotism and devotion to the cause of union. The articles of confederation had not been adopted by all the colonies; some of them still held back. They were unwilling to recognize the Virginia title, but would 'accede to the confederation provided Congress would fix the western limits of *the states claiming to extend to the Mississippi or the South sea.*' The issue was thus distinctly presented, the surrender of the territory and union, or its retention and disunion. Virginia decided for union, and (January, 1781) agreed to cede the country to the Federal Government. In 1783 Congress accepted her terms, and in 1787 passed an ordinance for the government of the territory." Nothing now remained to complete the activities of this period of the Revolution but the adoption of the Constitution and the election of Washington to the presidential chair.

GEOGRAPHIC NOTES

NORTH AMERICA

CANADA. At the annual meeting of the Hudson's Bay Company, held recently in London, it was stated that the surveys of the public lands in the northwest having been extended to the Rocky mountains it had become necessary to define the western boundary of the lands of the Hudson's Bay Company. The Dominion government had contended that the line should be placed at the limit of cultivable and grazing lands, which meant the base of the Rocky mountains. The government had, however, finally accepted the contention of the company that the latter's one-twentieth share of the lands available for settlement extends to the summit of the mountains.

Dr Robert Bell, of the Canadian Geological Survey, with Mr. R. W. Brock and a small party of boatmen, has renewed his explorations to the eastward of James bay. Instead of following his route of 1895 by Gatineau river, he journeys this summer via Keepawa and Grand lakes, whence he crosses the divide into the watershed of the Noddawai river, which he intends to explore geologically, giving especial attention to the valley of Bell river. Dr Bell's explorations in 1895 proved that the main source of the Noddawai, which drains some 60,000 square miles to the southeast of James bay, is Mattagami lake, fed by two large streams, the Bell and Wasawampi. The Wasawampi, which enters the east end of the lake, is interrupted about 60 miles to the southeast by its enlargement into the lake of the same name, where it receives its most important tributary, called the O'Sullivan, from its original explorer in 1894. The most important feeder of Mattagami lake, Bell river, at its western extremity, was discovered in 1895 by Dr Bell. It is in the main a broad stream, from 20 to 40 feet deep, navigable long distances by steamboats. Bell reports that the watershed of this river has extensive regions suitable for grain raising, dairy farming, lumbering, and stock growing, and he be-

lieves that it will eventually be made accessible by railway and occupied by a large white population.

EUROPE

GERMANY. During May 1,360 ships, aggregating 139,787 tons, passed through the Baltic canal, the tolls amounting to 78,206 marks. Both the traffic and the receipts continue to fall far short of original expectations.

SWITZERLAND. The foreign trade of Switzerland in 1895 showed a considerable increase upon that of the preceding year, the imports increasing from $165,000,000 to $183,000,000 and the exports from $124,000,000 to $132,500,000, in round numbers. The exports to the United States showed a large increase.

RUSSIA. The annual fair at Nijni Novgorod has been opened this year at an earlier date than usual, in order to secure visits from the foreigners who attended the czar's coronation at Moscow. The exhibition covers over 200 acres, and while still possessing those unique features which have made this great Russian fair so famous, it is this year demonstrating in a most striking manner the enormous strides the various mechanical industries are making in the Russian empire.

UNITED KINGDOM. During the year ending July 1, 1896, 23,695 vessels paid harbor dues at the port of Liverpool. While the number was 248 fewer than in the preceding year, the aggregate tonnage (11,046,459) showed an increase of 269,313.

The total output of coal in the United Kingdom in 1895 has just been officially announced as 189,661,362 tons, which exceeds by 1,383,837 tons the output of 1894, the highest previous record. The total recorded output of minerals was 201,738,351 tons, an increase of 2,287,000 tons over the previous year. The number of mines worked was 3,512 and the number of persons employed therein 700,284. The number of quarries worked was 8,062, the product, mostly stone, amounting to 29,813,734 tons. The number of employés in this branch of industry was 104,625, and the total number of persons employed in the entire mineral industry 838,282.

ASIA

CHINA. Russia is stated by the St. Petersburg *Novosti* to have obtained absolute freedom of trade in northern China.

TONKIN. Official notice is given that the English commissioner has handed over to the French authorities the district of Mongsin with the dependent territories as being on the left bank of the Mekong.

BURMA. A preliminary survey has been made for a railway from the Mu valley line to the Chindwin river, a distance of 70 miles. The route presents no serious engineering difficulties and the country to be traversed is densely populated.

AFGHANISTAN. The Amir has issued orders that none of his subjects shall be allowed to keep Kafirs as slaves, and strictly forbidding all slave dealing. The Kafirs, moreover, are not to be compelled to become Mohammedans against their will.

INDIA. The first consignment of Kashmir silk was recently sold in London. Kashmir possesses excellent water power, and attention is being called to the inducements it offers for the employment of capital.

The Nizam of Haidarabad, one of the feudatory princes of India, has recently consented to the acquisition of land in his dominions by Europeans. It is expected that cotton factories and other industrial enterprises will soon be established in the state.

JAPAN. A treaty of commerce has been concluded between Japan and Belgium.

The fishing industry of Japan is rapidly acquiring great importance. Last year Japanese fishermen caught on the Siberian coasts 600,000 salmon and 160,000 salmon trout. In the island of Saghalien the Japanese have leased 84 stations; 71 vessels were employed last year, and the catch was valued at $330,000. From the same island no less than 10,000 tons of edible seaweed were sent to China in 1894.

TURKESTAN. It is announced that a railway will be built as soon as possible from Tashkend to Orenburg, with the object of connecting the Trans-Caspian and Samarcand line with that of Siberia.

AFRICA

NATAL. The 400th anniversary of the discovery of Natal will occur in 1897, and it is proposed to celebrate the occasion by an exhibition.

ORANGE FREE STATE. To the development of the gold mines of this state is mainly due the increase in the net profits of the Orange Free State railway from £1,653 in 1891 to £523,926 in 1895.

SIERRA LEONE. The work of the Anglo-French Boundary Commission of the Sierra Leone and French Guinea frontier establishes as British territory a large extent of country and a number of populous towns which have hitherto been regarded as French. The British will also now occupy the extensive hinterland of Sierra Leone. Except on the coast, the climate of this region is said to be comparatively healthy, and the country is capable of producing rice, cotton, and tobacco in large quantities. There is also a considerable trade in ivory and rubber. The construction of roads to the interior will be commenced at once.

AUSTRALASIA

WESTERN AUSTRALIA. Since the beginning of 1894 the population of Western Australia has more than doubled. The extensive railway system now adopted, together with the harbor works in progress at Fremantle and other points on the coast, will facilitate and probably greatly expand the export of lumber, the supply of which is practically inexhaustible and the quality excellent.

MISCELLANEA

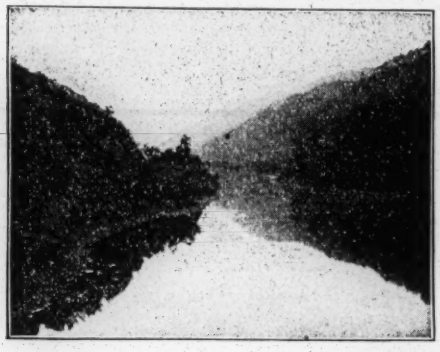
In connection with the recent loss of the *Drummond Castle* off cape Finisterre, attention has been called to the statement of the late Professor Tyndall that the electric light is not good for lighthouse purposes. There

seems to be no satisfactory explanation of the fact that the powerful Ushant light was not visible at the time of the recent disaster.

Henry Gannett, Chief Geographer of the Geological Survey, Geographer of two censuses, President of the Board of Geographic Names, and author of several standard works, is a leading geographer of America. Born August 24, 1846, he this month rounds out a half-century of fruitful life.

A recent brochure of the "Bulletin, Department of Geology, University of California," is a description of the Great Valley of California, with a criticism of the theory of isostasy, by F. Leslie Ransome. As indicated by the initial paragraph, the memoir is primarily a critical discussion of the well-known geologic doctrine enunciated by Dutton—the doctrine that the earth-crust is in a state analogous to that of hydrostatic equilibrium, and that it is warped or deformed by transfer of load through the action of streams, as, for example, from the Rocky mountains into the gulf of Mexico. The author opposes this doctrine and appeals to the facts of the Californian valley for support. The memoir is scholarly and the critical remarks are gratifyingly courteous, and it is notable as a careful review of the literature pertaining to isostasy. No geographer concerned with the study of the greater terrestrial movements can fail to find it of use. The memoir forms pages 371–428 of volume I of a highly creditable series of publications emanating from the University of California "at irregular intervals in the form of separate papers * * * which embody the results of research by some competent investigator." Several of these memoirs, especially those by Professor Andrew C. Lawson, are noteworthy contributions to scientific geography.

In his letter to the National Geographic Society on the occasion of its recent field meeting at Charlottesville, Va., Dr W. C. N. Randolph, of the University of Virginia, called attention to the extraordinary productiveness of that region in respect of illustrious men. "Across the river in front of us," he said, "Jefferson was born; around its turn is the birthplace of General Rogers Clarke, who, through Virginia, gave to the Great Republic the Northwest. Over there, a short mile and a half away, lived Monroe; a mile west of the city lived William Wirt, the famous lawyer, orator, and author, while seven miles further west Meriwether Lewis, of the Lewis and Clarke expedition, was born. Down these "little mountains," as the old people love to call them, was born the game-cock of the Carolinas, General Sumter; further on dwelt James Madison and Zachary Taylor, the latter the hero of Buena Vista, and both of them Presidents of the United States. In the same county were born the Barbours, one of them one of the most honored of our representatives at the Court of St. James, the other a distinguished member of the Supreme Bench. Further on, in Fauquier county, was born John Marshall, the greatest of our Chief Justices. He took the frazelled threads of American jurisprudence and twisted them into a rope so strong that it has never been broken, so flexible that it has never been oppressive, so sound that at the end of nearly a hundred years it shows no evidence of decay." He thought he might be pardoned if he requested that, in making up the list of products of the beautiful Piedmont plateau, account might be taken of the many illustrious men to whom it has given birth.



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FEBRUARY.—Venezuela: Her Government, People, and Boundary, with map and illustrations, William E. Curtis; The Panama Canal Route, with illustrations, Prof. Robert T. Hill; The Tehuantepec Ship Railway, with maps, E. L. Corthell, C. E., LL. D.; The Present State of the Nicaragua Canal, Gen. A. W. Greely; Explorations by the Bureau of American Ethnology, W J McGee. *Also map of the Orinoco valley, showing territory drained by that waterway and its bearing on the Venezuelan Boundary Question.*

MARCH.—The So-Called "Jeannette Relics," Prof. Wm. H. Dall; Nansen's Polar Expedition, Gen. A. W. Greely; The Submarine Cables of the World, Gustave Herrle; The Survey and Subdivision of Indian Territory, with map and illustration, Henry Gannett; "Free Burghs" in the United States, James H. Blodgett. *Also chart, 49 x 30 inches, showing Submarine Telegraph Cables of the World and Principal Land Lines. Full-page portraits of Dr. Nansen and Prof. Wm. H. Dall.*

APRIL.—Seriland, with map and illustration, W J McGee and Willard D. Johnson; The Olympic Country, with map, the late S. C. Gilman; The Discovery of Glacier Bay, Alaska, Eliza Ruhamah Scidmore; Hydrography in the United States, Frederick H. Newell; Recent Triangulation in the Cascades, S. S. Gannett; The Altitude of Mt. Adams, Washington, Edgar McClure.

MAY.—Africa since 1888, with special reference to South Africa and Abyssinia, with map, Hon. Gardiner G. Hubbard; Fundamental Geographic Relation of the Three Americas, with map, Prof. Robert T. Hill; The Kansas River, Arthur P. Davis. *Also portrait of Hon. Gardiner G. Hubbard, President of the National Geographic Society.*

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